



Just about every camper will have some sort of gas appliance to take camping. Whether it's a [stove](#), [lantern](#) or a [heater](#) for those chilly nights, they all have one thing in common... flammable gas!

Unfortunately, it's not uncommon to hear on the news or through friends of the bad experiences some people have when using gas appliances. Explosions and burns are a very real risk when using any gas appliance, and most of the time it's due to an undetected gas leak, which is still dangerous even if there is no flame involved.

If you own a gas product then read on to find out how to handle your gas cylinder safely and detect potential leaks to prevent the worst scenario from happening to you or your loved ones!

Where can you fill up a gas cylinder?

Gas cylinders are filled by trained personnel at filling stations, often hardware and camping stores.

Not all gas is the same, and it's worth having a basic understanding of the gas your appliance requires, and the gas you fill your cylinder with. The 'LPG' acronym is a name actually used for various forms of a similar gas, and natural gas is completely different. Head [over here](#) for more details on gas types.

Cylinders should never be filled all the way and are actually designed to allow 20% space above the full level of gas for expansion. Filling a gas cylinder all the way to the top is dangerous, but properly filled cylinders should never have a problem.

To monitor the level of gas inside your cylinder, you can use scales and the tare weights stamped on the side of the cylinder. The total weight of the cylinder minus the tare weight will give you an indication of the amount of gas left.

Do you need to get your gas cylinder tested?

Gas cylinders are tested and dated when they are made and have an expiry date of 10 years from the date of testing, once this date is reached it is no longer legal to refill the cylinder and it needs to be retested.

Testing is an inexpensive process that includes a safety inspection inside and out and a valve replacement before being re-stamped with a new test date by an approved test facility.

Connecting your appliance to your cylinder

Before you connect anything up, take note of any nearby ignition sources such as a campfire and make sure you are well clear.

Inspect everything. Check the hose for splits or damage, make sure rubber seals are in good condition, in particular, the rubber 'nose' on many POL fittings which are prone to splitting. It's a good idea to check these things prior to any trip, replace anything that is damaged and carry spares.

It's good practice to check these things well before you leave on your trip so you've got time to replace anything, If you find any damage or splits, don't use it! Replace it! There's nothing worse than finding out you can't use your stove once you are at your campsite.

Once things are connected ensure fittings are tight keeping mind any left-handed threads, turn the gas on and check for leaks.



Keep the hose free of knots, kinks and away from sources of heat. Image: David Leslie

How to check your appliance for gas leaks:

This is the simplest and most effective action you can take to ensure the safe operation of any gas appliance. We've listed the steps below, Elgas has also made a useful video [here](#). Follow this process every time you connect your gas appliance to your cylinder. Once you've securely connected your gas cylinder to your appliance, turn on the gas at the bottle and follow these steps BEFORE YOU ATTEMPT TO LIGHT ANYTHING!

1. Firstly, listen and check for a smell

Gas by itself is fairly odourless and therefore very difficult to detect. This is why a chemical called mercaptan is added that smells like rotten eggs, or sulphur. We don't recommend getting your nose up close to the cylinder as this can be dangerous, but if you can smell something once you've turned the gas on at the bottle - you have a leak! Turn the gas off at the bottle, check your connections and turn the gas back on again. If the smell is gone, go to step 2.



Check for the scent of rotten eggs or sulphur from your appliance. Image: David Leslie.

2. Get a bottle of soapy water

The best way to check for leaks is to use a spray bottle filled with soapy water. Apply the soapy water around the appliance connection, along the hose, around the regulator and up to the point at which the appliance is connected to the cylinder. If you don't have a spray bottle you can mix up some detergent and water and use a sponge or dishcloth to spread the soapy water around.



Mix up a bottle of soapy water to use to check your gear. Image: David Leslie.

3. If you've got bubbles, turn the gas off - you've got a leak!

Once you've turned it on if bubbles start to appear anywhere - you have a leak! Turn the gas off at the bottle and do some investigating. Once you think you've fixed the leak, go back to step one and repeat these three steps until you no longer have bubbles forming anywhere along your gas lines and connections.



Spray soapy water onto the rights areas, and turn on the gas cylinder to see if bubbles appear. Image: David Leslie



How to stop the leak

The majority of the time, a threaded connection to the hose or appliance leaks because it isn't tight enough. Most connections can be tightened with a spanner, so make sure you check them all before use.

A lot of connections have a rubber O-ring or seal inside the thread. If this has perished or is missing then a leak will occur. This should be checked before and after every use.

We get asked if thread tape can be used to seal older or worn threaded connections, but ideally, these should just be replaced. The tape may not be a suitable solution to stop a leak, and if applied carelessly could block up gas flow causing other undesirable consequences.



Examine the O-ring to make sure it hasn't been damaged or gone missing. Image: David Leslie

What to do if there is a fire

If the worst-case scenario occurs and you end up with a gas fire then stay calm and act quickly. Depending on where you are, the best response is to get everyone out of danger. Then call the emergency services for professional help. A gas fire is extremely serious and should be treated as such.

If it's safe to access, turn off the gas cylinder as quickly as possible. This can sometimes put the fire out once the gas is cut. If it is safe to do so, remove the cylinder or any other gas cylinders from immediate heat.

In the event that it's not safe to turn the cylinder off or move it and you don't have phone reception to call for help or are in a remote area, then, unfortunately, the only course of action can be to wait for the gas to burn off. If you're in this situation, and it's safe to do so, move as much gear away from the area to avoid the fire spreading.

If you can access a hose, cool it off with water from a safe distance to prevent rupture. This is only used for a gas fire and not a fat or oil fire.



To prevent the worst, check your gas cylinder is in good condition before you use it. Image: David Leslie

Transporting your cylinder

Never transport gas cylinders inside a car, caravan or camper trailer unless it is in a certified gas cylinder compartment.

Cylinders need to be transported securely in an upright position in a ventilated location. Many roof racks have specific cylinder holders and there are many secure options for safely restraining a gas cylinder for transport on the outside of a vehicle.

Open plastic crates like milk crates are great for transporting, storing and even keeping your gas cylinder in an upright position when in use, just make sure the crate has open sides such that it allows any leaked LPG to escape rather than build up inside.

The filling of gas cylinders whilst in a crate, however, is prohibited! Gas cylinder stations are made of metal including the stand allowing static electricity to be discharged between the



cylinders. If your gas cylinder is in a plastic crate then the static electricity is not being discharged from your cylinder. Given the explosive atmosphere created when filling gas cylinders, any ignition source such as a spark from a build-up of static electricity is going to cause an explosion.

So, transport your cylinder in a milk crate, but remove it from the crate for refilling. And one last note, purchase your milk crate rather than 'borrowing' it from your local milk distribution company!

Other LPG safety tips

- Gas cylinders should always be stored upright in a well-ventilated area and never inside a dwelling or caravan unless in a certified cylinder compartment.
- Use a cap or plug on the connection to keep dust out.
- When not in use, cylinders should be turned off.
- Never use an adapter to fill your gas cylinder with automotive LPG, it could be the wrong gas and the cylinder could overfill causing it to explode.
- Gas appliances should never be used indoors unless it is specifically designed to do so, this includes any enclosed space such as tents, caravan annexes. Gas appliances can produce Carbon Monoxide (CO) and inhaling CO for even a short time can cause loss of consciousness and death.
- Use your gas appliance as intended, follow manufacturer instructions and never use homemade appliances or connections.
- Inspect your appliance regularly, if in doubt consult a licensed gasfitter.
- Dispose of disposable canisters safely at a waste centre, your local council will be able to help with this.

Prevention is the best treatment

When it comes to gas products and safety, prevention is the best treatment. Add a spray bottle of soapy water to your camping kit and check for leaks every time you connect the appliance.

If you're in doubt whether your product is safe or not, take it back to the place of purchase to get the supplier to check it out. Take the time to keep your appliance clean, and well maintained to minimise the risk of anything going wrong.

A very big thank you to Ben Greeneklee who, with over 20 years of experience in gas appliance manufacturing and testing, helped us with the technical accuracy of the information in this article.